AMENDMENTS TO THE CLAIMS

1-24. (Cancelled)

25. (New) An image input apparatus comprising an image reading unit which is constructed by arranging a plurality of chips integrally, wherein:

said image input apparatus is operable to successively calculate, at a time of image reading, a stepwise difference in density between image signals which are respectively read by adjacent chips of said image reading unit which comprise a plurality of read pixels and which have different reading sensitivities;

said image input apparatus is operable to compensate the image signals which are respectively read by the adjacent chips such that the difference in density between the image signals is compensated;

said image input apparatus has a gamma compensation value for only one chip from among the plurality of chips as a reference chip; and

said image input apparatus is operable to compensate the image signals for the reference chip and other chips by employing the gamma compensation value.

26. (New) The image input apparatus according to claim 25, wherein

said image input apparatus is operable to calculate the stepwise difference in density of the image signals between the adjacent chips for image data which has been subjected to the compensation of the image signals by employing the gamma compensation value, and

said image input apparatus is operable to uniformly add the stepwise difference in density to chips except for the reference chip.

27. (New) The image input apparatus according to claim 25, wherein

said image input apparatus is operable to calculate the stepwise difference in density of the image signals between the adjacent chips for image data which has been subjected to the compensation of the image signals by employing the gamma compensation value, and

said image input apparatus is operable to add the stepwise difference in density to respective pixels in stages for chips except the reference chip from an end of the chips.

28. (New) An image input apparatus comprising an image reading unit which is constructed by arranging a plurality of chips integrally, wherein:

said image input apparatus is operable to successively calculate, at a time of image reading, a stepwise difference in density between image signals which are respectively read by adjacent chips of said image reading unit which comprise a plurality of read pixels and which have different reading sensitivities;

said image input apparatus is operable to compensate the image signals which are respectively read by the adjacent chips such that the difference in density between the image signals is compensated; and

in the calculation of the stepwise difference in density between the image signals, said image input apparatus is operable to

take a difference of pixel data on a chip boundary as the stepwise difference in density between the image signals,

take a mean of differences of pixel data on chip boundaries for several lines as the stepwise difference in density between the image signals, and

when the mean of the differences of the pixel data on the chip boundaries for several lines is calculated, to exclude a value of the difference from the calculation of the mean when the difference exceeds a threshold value.

29. (New) An image input apparatus comprising an image reading unit which is constructed by arranging a plurality of chips integrally, wherein:

said image input apparatus is operable to successively calculate, at a time of image reading, a stepwise difference in density between image signals which are respectively read by adjacent chips of said image reading unit which comprise a plurality of read pixels and which have different reading sensitivities;

said image input apparatus is operable to compensate the image signals which are respectively read by the adjacent chips such that the difference in density between the image signals is compensated;

in the calculation of the stepwise difference in density between the image signals, said image input apparatus is operable to

take a difference of pixel data on a chip boundary as the stepwise difference in density between the image signals,

take a mean of differences of pixel data on chip boundaries for several lines as the stepwise difference in density between the image signals, and

start the calculation of the stepwise difference in density between the image signals after being delayed from a start of a real reading by the number of lines which are required for calculating the mean value of the stepwise differences in density between the image signals.

30. (New) The image input apparatus according to claim 29, wherein said image input apparatus is operable to

add the calculated stepwise difference in density from a first line of read image data, and

to not process a number of last lines of the read image data by the number of lines for which the calculation of the stepwise difference in density has been delayed.

31. (New) The image input apparatus according to claim 29, wherein said image input apparatus is operable to

add the calculated stepwise difference in density from a first line of read image data, and

subject a number of last lines of read image data corresponding to the number of lines for which the calculation of the stepwise difference in density has been delayed to addition with a lastly calculated stepwise difference in density.

32. (New) The image input apparatus according to claim 29, wherein said image input apparatus is operable to

add the calculated stepwise difference in density starting from a line of the read image data, delay the calculated stepwise difference in density by the number of lines which are required for calculating the stepwise difference in density, and

not process a number of lines from the start of the read image data by the number of lines for which the calculation is delayed.

33. (New) The image input apparatus according to claim 29, wherein said image input apparatus is operable to

add the calculated stepwise difference in density starting from a line of the read image data, delay the calculated stepwise difference in density by the number of lines which are required for calculating the stepwise difference in density, and

add an initially calculated stepwise difference in density to a number of lines corresponding to the number of lines for which the calculation is delayed from the start.

34. (New) An image input apparatus comprising an image reading unit which is constructed by arranging a plurality of chips integrally, wherein:

said image input apparatus is operable to successively calculate, at a time of image reading, a stepwise difference in density between image signals which are respectively read by adjacent chips of said image reading unit which comprise a plurality of read pixels and which have different reading sensitivities;

said image input apparatus is operable to compensate the image signals which are respectively read by the adjacent chips such that the difference in density between the image signals is compensated;

when a real-time screen display of an input image is performed, said image input apparatus is operable to perform the screen display from a line which has been subjected to the addition of the stepwise difference in density between the chips.

35. (New) The image input apparatus according to claim 34, wherein said image input apparatus is operable to

add the calculated stepwise difference in density from a first one of the read lines,

perform a display on a screen from the first line when the last several lines are not processed, and

not display on the screen the last several lines which are not processed.

36. (New) The image input apparatus according to claim 34 wherein, when the calculated stepwise difference in density is added from a line which is delayed by several lines, said image input apparatus is operable to display on the screen the line which is delayed by the several lines to the last line.

37. (New) An image input apparatus comprising an image reading unit which is constructed by arranging a plurality of chips integrally, wherein:

said image input apparatus is operable to successively calculate, at a time of image reading, a stepwise difference in density between image signals which are respectively read by adjacent chips of said image reading unit which comprise a plurality of read pixels and which have different reading sensitivities;

said image input apparatus is operable to compensate the image signals which are respectively read by the adjacent chips such that the difference in density between the image signals is compensated;

said image input apparatus further comprises density stepwise difference correcting means for correcting, when the calculated stepwise difference in density is compared to a predetermined threshold value and the calculated stepwise difference in density is larger than the threshold value, the calculated stepwise difference in density; and

said density stepwise difference correcting means makes the stepwise difference in density zero when the stepwise difference in density is larger than the threshold value so as to correct the calculated stepwise difference in density and thereby not perform compensation of the stepwise difference in density between the image signals.

38. (New) An image input apparatus comprising an image reading unit which is constructed by arranging a plurality of chips integrally, wherein:

said image input apparatus is operable to successively calculate, at a time of image reading, a stepwise difference in density between image signals which are respectively read by adjacent chips of said image reading unit which comprise a plurality of read pixels and which have different reading sensitivities;

said image input apparatus is operable to compensate the image signals which are respectively read by the adjacent chips such that the difference in density between the image signals is compensated;

said image input apparatus further comprises density stepwise difference correcting means for correcting, when the calculated stepwise difference in density is compared to a predetermined threshold value and the calculated stepwise difference in density is larger than the threshold value, the calculated stepwise difference in density; and

said density stepwise difference correcting means holds the stepwise difference in density at a predetermined value so as not to be larger than the threshold value when the stepwise difference in density is larger than the threshold value.

39. (New) An image input apparatus comprising an image reading unit which is constructed by arranging a plurality of chips integrally, wherein:

said image input apparatus is operable to successively calculate, at a time of image reading, a stepwise difference in density between image signals which are respectively read by adjacent chips of said image reading unit which comprise a plurality of read pixels and which have different reading sensitivities;

said image input apparatus is operable to compensate the image signals which are respectively read by the adjacent chips such that the difference in density between the image signals is compensated;

said image input apparatus further comprises density stepwise difference correcting means for correcting, when the calculated stepwise difference in density is compared to a predetermined threshold value and the calculated stepwise difference in density is larger than the threshold value, the calculated stepwise difference in density; and

said density stepwise difference correcting means calculates the difference by increasing the number of lines of pixels in chips for calculating the stepwise differences in density when the stepwise difference in density is larger than the threshold value.

40. (New) An image input apparatus comprising an image reading unit which is constructed by arranging a plurality of chips integrally, wherein:

said image input apparatus is operable to successively calculate, at a time of image reading, a stepwise difference in density between image signals which are respectively read by adjacent chips of said image reading unit which comprise a plurality of read pixels and which have different reading sensitivities;

said image input apparatus is operable to compensate the image signals which are respectively read by the adjacent chips such that the difference in density between the image signals is compensated;

said image input apparatus is operable perform prereading for intermittently reading a region before reading is performed;

said image input apparatus is operable to compensate the stepwise difference in density between the image signals by employing the stepwise difference in density which is calculated at the prereading; and

said image input apparatus is operable to calculate the stepwise difference in density which is calculated at the prereading from a mean of all image data obtained in the prereading.

41. (New) An image input apparatus comprising an image reading unit which is constructed by arranging a plurality of chips integrally, wherein:

said image input apparatus is operable to successively calculate, at a time of image reading, a stepwise difference in density between image signals which are respectively read by adjacent chips of said image reading unit which comprise a plurality of read pixels and which have different reading sensitivities;

said image input apparatus is operable to compensate the image signals which are respectively read by the adjacent chips such that the difference in density between the image signals is compensated;

said image input apparatus is operable perform prereading for intermittently reading a region before reading is performed;

said image input apparatus is operable to compensate the stepwise difference in density between the image signals by employing the stepwise difference in density which is calculated at the prereading; and

said image input apparatus is operable to compensate the stepwise difference in density between the image signals by applying to a stepwise difference in density of an intermittent region which is not a target to be read, and a stepwise difference in density of a region which has been read immediately before the target region, at the prereading.